

Telecommunications Study:  
MBE Opportunities

Systems Inc. (a Citicorp subsidiary), Reuters Holdings PLC, Telerate Systems Inc., and TRW. Other providers include American Airlines, Associated Press, BRS, Chilton, Dialog Information Services, Dun & Bradstreet, United Airlines, United Press International, and Knight-Ridder.

**F. SOURCES OF INFORMATION**

Antonoff, Michael. "The Prodigy Promise". Personal Computing, May 1989.

Carr, Edward. "Telecommunications". The Economist, 10 March 1990.

Dyson, Esther. "Information, Bid and Ask". Forbes, 20 August 1990.

Fleming, Maureen, Rosenbaum, Melanie, Silverstein, Jeff, Elwell, Chris and Fleming, Lee. Information Industry Fact Book. Digital Information Group, 1988.

Glossbrenner, Alfred. "Genie's New Online Fee: \$4.95 A Month". Home-office Computing, December 1990.

Goodwin, Robert L. "Technology Insights: Services". Datamation 15 June 1989.

Keizer, Gregg. "World on the Wire". COMPUTE!, February 1991.

Mcclellan, J. Mac. "Weather for Independents". Flying, January 1990.

Mcmullen, John. "New Allies: IS and Service Suppliers". Datamation, 1 March 1990.

Oliver, Nancy. "Why Your Service is So Primitive". Consumers' Research Magazine, June 1989.

Rothfeder, Jeffrey, Lewyn, Mark. "How Long Will Prodigy be a Problem Child?". Business Week, 10 September 1990.

US Industrial Outlook 1991, "Information Services". Washington, D.C. U.S. Department of Commerce.

US Industrial Outlook 1990, "Telecommunications Services". Washington, D.C. U.S. Department of Commerce.

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**III. MARKET STRATEGY**

**A. Modes of Entry**

The are four basic modes of entry:

1. Start up as a new online service vendor using information from other providers
2. Start up as a new online service vendor and information provider
3. Start up as a new information provider using other online service vendors
4. Acquisition of existing online service vendors and/or information providers

**B. Timing Considerations**

The online services market is still evolving. While there are some database providers, which have been in the business for 20 years it is only recently that end users have been able to access the databases directly. Access has been the prerogative of librarians and information specialists. Much of this has changed due to two factors: online service providers have designed easier and simpler access procedures, often using a menu style for user selection, and the spread of the personal computer and its capabilities for end user use.

The consumer market has been slow to materialize as home users have not seen the necessity of buying a modem and subscribing to a database service. If the RBOCs are ever allowed to enter the online services market as information providers, this scenario will probably change. They have the financial resources to develop very easy-to-use services and the existing customer base to market the services to. The RBOCs have again petitioned to be allowed to enter the market, but no new decision has been made.

**C. Cost of Entry**

The cost of starting up a new, full-featured online service vendor is extremely high. Nearly \$2 billion has been invested in starting up consumer online services since the 1980s. The investment in Prodigy alone was \$600 million. However, the cost of starting up a new basic service geared toward a specific audience can be very low, easily under \$10,000, excluding the cost of information to be

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provided. This includes the cost of a computer, modem, telephone line, off-the-shelf software, and programming for customization. Many databases are available free of charge. The U.S. Commerce Department Office of Automation Branch, Organization and Systems Division offers an example of a "bulletin board" type of free online service, modem number 301-763-4576.

The cost of starting up as a new information provider is also very low, again excluding the cost of information to be provided. In general, the online service vendor will negotiate all necessary arrangements (fees, storage costs, billing, etc.) with the information provider .

**D. Critical Factors For Success**

The most critical factor is in offering information which is truly valuable to the market. Given that the information has value, online service vendors and information providers must also understand whether they have urgent information or convenient information. With urgent information, accuracy is more of an issue than ease of access. With convenient information, access via computer, presentation, advertising, and pricing are extremely important. "First, it must cost no more than a few hundred dollars; second, it must make life simpler; third, in some manner rather hard to define, it must be fun."<sup>2</sup>

**IV. OPPORTUNITIES FOR MBES**

Given the high cost of entering this market as a new online service vendor, MBES may find more feasible possibilities as a new information provider using other online service vendors. MBES can provide additional services as a value-added intermediary in areas that have been the domain of librarians, but where librarians have not been able to provide services. An example is the service provided by one of the MBES identified in this study. The service is provided to real estate agents who are in the property rental business. The MBE conducts a credit check of prospective renters using online credit databases.

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<sup>2</sup> Carr, Edward, "Telecommunications", The Economist, March 1990.

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**CONCLUSION**

The telecommunications market segments reviewed here include cellular radiotelephone, mobile and specialized mobile radio, radio paging, personal communications networks, messaging (voice processing and electronic mail), cable television, wireless cable, and online services. Each segment provides some opportunities for minority firms, although some are more promising than others. (See Table 7.)

The marketing product life cycle identifies four stages in the development and growth of a product - introduction, rapid growth, maturity and decline. The segments reviewed can be examined in this framework because they all represent a product or service, or family of products and services.

PCN and wireless cable are still in the introduction phase although wireless cable presents a more current opportunity than PCN. There are many unknown factors which will develop and could impact future possibilities in both segments. Both bear watching and consideration.

A number of the segments including cellular radiotelephone services, radio paging, messaging (voice processing and electronic mail) have enjoyed rapid growth in the recent past. Growth rates are slowing; however, and the segments are entering or will soon enter the stage of maturity. These segments represent the best opportunities due to their continuing growth, the various modes of entry available to MBEs with limited costs of entry, and excellent regulatory climates.

Cable TV, mobile radio and online services are mature industries with even revenues. In spite of this, there are limited areas that may represent opportunities for MBEs.

No telecommunications segments were reviewed that are in decline, although technological developments could change this. Any firm that is looking to succeed in any of the telecommunications segments presented must remain current with the technological developments and regulatory issues.

TABLE 7  
OPPORTUNITIES IN TELECOMMUNICATIONS INDUSTRY SEGMENTS  
JUNE 1991

| SEGMENT<br>AREA            | CELLULAR<br>TELEPHONE   | RADIO<br>PAGING   | SPECIALIZED<br>MOBILE RADIO                           | PERSONAL COMM<br>NETWORKS  | MESSAGING  |  | CABLE  | WIRELESS<br>CABLE  | ONLINE INFO<br>SERVICES                                       |
|----------------------------|---|---|---|--|--|--|--|--|---|
|                            |   |   |   |  | VOICE<br>PROCESSING  | ELECTRONIC<br>MAIL   |  |  |   |
| 1990 REVENUES (REV)        | \$4.55 B  | \$1.9 B   | N/A   | N/A  | \$1.57 B   | \$574 M  | \$21.4 B   | N/A  | \$7.2 B   |
| GROWTH:                    |   |   |   |  |  |  |  |  |   |
| a. 1990                    | 30.6%   | 17%   | N/A   | N/A  | 37% (REV)  | 53% (BOXES)  | 14.0% (REV)  | N/A  | UNAVAILABLE   |
| b. FUTURE                  | 20 - 25%<br>(SUBSCRIBERS)   | 8 - 15%<br>(SUBSCRIBERS)  |   |  | UNAVAILABLE  | 65% (BOXES)  | 4.2% (SUB)<br>7.2% (?)   |  | 23% (REV)   |
| # OF SUBSCRIBERS:<br>(SUB) |   |   |   |  |  |  |  |  |   |
| a. 1990                    | 5.3 M   | 9.3 M   | N/A   | N/A  | N/A  | 2.6 M (BOXES)  | 53.9 M   | .2 - .35 M   | 1.9 M   |
| b. PROJECTED               | 38.7 M (2000)   | 15.0 M (1995)   |   |  |  | 11.2 M (1993)  | 57.9 M (MAX)   | UNAVAILABLE  | (NONE SUB'S)  |
| LIFE CYCLE PHASE           | DECLINING<br>GROWTH   | NATURE  | EMERGING  | EMERGING   | GROWING  | NATURE   | DECLINING<br>GROWTH  | EMERGING   | EVEN<br>GROWTH  |
| OPPORTUNITIES              | 1. UNSERVED<br>2. CONSTRUCTION<br>IN RSA<br>3. LICENSE<br>RENEWAL<br>4. ACQUISITION<br>5. AGENT/<br>DISTRIBUTOR | 1. START-UP<br>PAGING SVC<br>2. ACQUISITION<br>3. AGENT/<br>RESELLER<br>4. FM<br>SUBCARRIER | CONSTRUCT AND<br>OPERATE AM BNR<br>SYSTEM             | 1. SERVICE<br>PROVIDER<br>2. INSTALLATION<br>/MAINTENANCE<br>3. DISTRIBUTOR                            | 1. SYSTEM DESIGN<br>2. INTEGRATION<br>3. TRAINING<br>4. APPLICATION<br>DEVELOPMENT<br>5. SYS COMPONENTS<br>6. DISTRIBUTOR<br>7. SVC BUREAU | 1. SYS DESIGN<br>2. INTEGRATION<br>3. LAN<br>DEVELOPMENT<br>4. SERVICE<br>BUREAU | 1. ACQUISITION<br>2. OVERBUILDS<br>3. ANCILLARY<br>VIDEO TRANS-<br>MISSION<br>CABLE RADIO      | 1. OPERATOR<br>2. ACQUISITION  | 1. ONLINE SVC<br>PROVIDER<br>2. INFORMATION<br>3. ACQUISITION |
| COST OF ENTRY              | MILLIONS OF<br>DOLLARS<br>\$10 M TO \$30 M  | START-UP -<br>\$160,000-260,000<br>ACQUISITION -<br>\$1000/SUBSCRIBER                       | SMALL SYSTEM<br>COSTS FROM<br>\$100,000-150,000       | MILLIONS OF<br>DOLLARS   | FUNCTION OF BOX<br>ABOVE - MOST ARE<br>\$250,000 OR LESS   | FUNCTION OF BOX<br>ABOVE-MOST ARE<br>\$100,000 OR<br>LESS                        | PER SUBSCRIBER<br>\$1500-2000<br>PER MILE \$10,000<br>TO \$300,000                             | \$1 TO 4 M   | FUNCTION OF BOX<br>ABOVE                                      |
| RISK FACTORS               | 1. STANDARDS<br>2. GROWTH<br>3. PCN<br>4. DECLINING<br>PRICES   | 1. OBTAINING<br>FREQUENCY<br>2. AVAILABILITY<br>OF UNSERVED<br>GEOGRAPHIC<br>SEGMENT        | 1. CELLULAR/PCN<br>2. LACK OF<br>NATIONAL<br>COVERAGE | 1. LTD SPECTRUM<br>2. DIGITAL<br>CELLULAR<br>3. LICENSING<br>PROCESS<br>4. LIMITED AREA<br>OF COVERAGE | IMPLEMENTATION/<br>ADMINISTRATION<br>OF STANDARDS<br>NOT YET<br>SETTLED  | IMPLEMENTATION/<br>ADMINISTRATION<br>OF STANDARDS<br>NOT YET<br>SETTLED          | 1. RE-REGULATION<br>2. HIGHLY LEVER-<br>AGED FIRMS<br>3. CHANNEL<br>CAPACITY<br>4. PROGRAMMING | 1. CHANNELS<br>2. PROGRAMMING<br>3. UNSERVED<br>GEOGRAPHIC<br>SEGMENTS<br>4. FINANCING | VALUE OF THE<br>INFORMATION                                   |
| REGULATION                 | FCC:<br>ACQUISITION<br>CONSTRUCTION<br>OPERATION  | FCC:<br>LICENSES  | FCC:<br>OPERATOR/USER<br>LICENCES                     | FCC:<br>EXPERIMENTAL<br>LICENSE  | NONE   | NONE   | FCC:<br>FRANCHISE<br>AUTHORITY   | FCC:<br>LICENSE  | NONE  |
| FUTURE PROGNOSIS           | STRONG  | MODERATE  | UNKNOWN   | UNKNOWN  | STRONG   | STRONG   | STRONG   | UNKNOWN  | STRONG  |
| MBEs IDENTIFIED            | 11  | 2   | 2   | 0  | 7  | 0  | 15   | 1  | 3   |